

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1-5 (Canceled)

6. (Currently amended) A system for data representation, comprising:
a drug delivery system;
a data stream device; and
(a drug display monitor in communication with the data stream device, the drug display monitor configured to depict, in real time, a present concentration of ~~the one or more drugs at least~~ one drug introduced at least indirectly into blood of the subject by the drug delivery system and future concentrations of the one or more drugs in ~~blood of the subject~~.

7. (Previously presented) The system of claim 6, wherein the drug delivery system comprises at least one of:
an infusion pump;
a gas administration machine; and
one or more bolus injection apparatus.

8. (Previously presented) The system of claim 6, wherein the drug delivery system further comprises a simulator, which simulates the present and future concentrations based on a model.

9. (Previously presented) The system of claim 8, wherein the simulator simulates bolus drugs.

10. (Previously presented) The system of claim 8, wherein the simulator simulates infusion drugs.

11. (Previously presented) The system of claim 8, wherein the simulator simulates anesthetic drugs.

12. (Previously presented) The system of claim 6, wherein the drug display monitor, further comprises:

- (1) a data decoder receiving data from the data stream device;
- (2) a dosage calculator receiving decoded data from the data decoder;
- (3) a drug modeler and normalizer receiving calculated data from the data decoder;
- (4) a storage device, receiving drug and dosage data from the drug modeler and normalizer; and
- (5) a display generator.

13. (Previously presented) The system of claim 12, wherein the display generator produces a display of drug dosage, drug name, past, present and predicted drug site concentration.

14. (Currently amended) A system for data representation, comprising:
a processor, comprising drug models, producing an internal representation of drug display data and decoding a data stream;
a memory unit in communication with the processor;
a long term memory unit in communication with the processor;
a graphics adapter in communication with the processor; and
a display monitor in communication with the graphics adapter and configured to depict, graphically and substantially in real-time, a modeled concentration of at least one drug in ~~blood of~~ a subject.

15. (Currently amended) The system of claim 6, wherein the drug display monitor is also configured to depict past concentrations of the at least one drug in ~~blood~~ of the subject.

16. (Previously presented) The system of claim 6, wherein the drug display monitor depicts a percent likelihood that the at least one drug has a desired effect.

17. (Previously presented) The system of claim 16, wherein the percent likelihood is based on results from a predefined population.

18. (Previously presented) The system of claim 6, wherein the drug display monitor depicts a line representing an effective concentration at which the at least one drug will have a desired effect on at least ninety-five percent of a population.

19. (Previously presented) The system of claim 18, wherein the line representing the effective concentration at which the at least one drug will have a desired effect on at least ninety-five percent of a population provides a point of reference for a clinician to compare the present or future concentration of the at least one drug.

20. (Previously presented) The system of claim 6, wherein the drug display monitor is configured to depict, in real time, present and future concentrations of a combination including at least two components selected from the group consisting of at least one sedative, at least one analgesic, and at least one neuromuscular blocker.

21. (Previously presented) The system of claim 20, wherein the drug display monitor is configured to depict, in real time, present and future concentrations of a total course of anesthesia administered to the subject.

22. (Currently amended) The system of claim 14, wherein the processor is configured to model the concentration of the at least one drug in ~~the blood of~~ the subject based on a plurality of inputs.

23. (Previously presented) The system of claim 22, wherein the plurality of inputs include a manner in which the at least one drug is administered and an administered dose of the at least one drug.

24. (Previously presented) The system of claim 22, wherein the plurality of inputs includes at least one of a height, weight, gender, and age of the subject.

25. (Currently amended) The system of claim 14, wherein the processor, based on a drug model of the drug models, is configured to cause the graphics adapter and the display monitor to graphically depict a modeled present concentration of at least one drug in ~~blood of a~~ the subject and a predicted future concentration of the at least one drug in ~~blood of~~ the subject.

26. (Currently amended) The system of claim 25, wherein the processor, based on the drug model, is configured to cause the graphics adapter and the display monitor to graphically depict a modeled past concentration of at least one drug in ~~blood of a~~ the subject.

27. (Previously presented) The system of claim 25, wherein the processor, based on the drug model, is configured to cause the graphics adapter and the display monitor to graphically depict a percent likelihood that the at least one drug has a desired effect.

28. (Previously presented) The system of claim 27, wherein the processor, based on the drug model, is configured to cause the graphics adapter and the display monitor to graphically depict the percent likelihood based on results from a predefined population.

29. (Previously presented) The system of claim 25, wherein at least the modeled present concentration and the predicted future concentration of the at least one drug are illustrated in reference to an element representing an effective dose of the at least one drug at which the at least one drug would have a desired affect on at least ninety-five percent of a population.

30. (Previously presented) The system of claim 14, wherein the processor is configured to display an element representing an effective dose of at least one drug at which the at least one drug would have a desired affect on at least ninety-five percent of a population.

31. (Previously presented) The system of claim 14, wherein the processor is configured to model at least present and future concentrations of at least two anesthetic agents selected from the group consisting of at least one sedative, at least one analgesic, and at least one neuromuscular blocker.

32. (Previously presented) The system of claim 31, wherein the processor is configured to cause at least one of the graphics adapter and the display monitor to depict at least the present and future concentrations of the at least two anesthetic agents.

33. (Previously presented) The system of claim 31, wherein the processor is configured to model at least present and future concentrations of a total course of anesthesia administered to the subject.

34. (Previously presented) The system of claim 33, wherein the processor is configured to cause at least one of the graphics adapter and the display monitor to depict at least the present and future concentrations of each component of the total course of anesthesia administered to the subject.

35. (Currently amended) A system for modeling a concentration of at least one drug in ~~blood of a~~ subject, comprising:

a processing element programmed to model a concentration of at least one drug in ~~blood of a~~ subject over time; and

an output element configured to display, substantially in real-time, a modeled concentration of the at least one drug in reference to at least one concentration at which the at least one drug will have a desired affect against a known percentage of a population.

36. (Previously presented) The system of claim 29, wherein the output element is configured to display the modeled concentration of the at least one drug graphically.

37. (Previously presented) The system of claim 29, wherein the processing element is configured to model at least present and future concentrations of at least two anesthetic agents selected from the group consisting of at least one sedative, at least one analgesic, and at least one neuromuscular blocker.

38. (Previously presented) The system of claim 37, wherein the processing element is configured to cause the output element to depict at least the present and future concentrations of the at least two anesthetic agents.

39. (Previously presented) The system of claim 37, wherein the processing element is configured to model at least present and future concentrations of a total course of anesthesia administered to the subject.

40. (Previously presented) The system of claim 39, wherein the processor is configured to cause the output element to depict at least the present and future concentrations of each component of the total course of anesthesia administered to the subject.

41. (New) The system of claim 6, wherein the drug display monitor is configured to

depict an effect site concentration of the one or more drugs.

42. (New) The system of claim 6, wherein each of the present concentration and the future concentrations comprises an effect site concentration.

43. (New) The system of claim 6, wherein the drug display monitor is configured to depict a three-dimensional representation of at least one concentration and effect of the one or more drugs.

44. (New) The system of claim 14, wherein the processor is configured to model an effect site concentration of the at least one drug.

45. (New) The system of claim 14, wherein each of the present concentration and the future concentrations comprise an effect site concentration.

46. (New) The system of claim 14, wherein the processor is configured to cause at least one of the graphics adapter and the display monitor to depict a concentration of the at least one drug three-dimensionally.

47. (New) The system of claim 35, wherein the processing element is configured to model an effect site concentration of the at least one drug.

48. (New) The system of claim 35, wherein the modeled concentration comprises an effect site concentration.

49. (New) The system of claim 35, wherein the processing element is configured to cause the output element to depict a concentration and effect of the at least one drug three-dimensionally.